DOCUMENT RESUME

ED 335 131 PS 019 709

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TITLE Entrance Age and Visual Motor Integration.
PUB DATE 91
NOTE 11p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; Admission Criteria; *Kindergarten Children; Primary Education; *School Entrance Age; *School Readiness
IDENTIFIERS *Developmental Test of Visual Motor Integration

ABSTRACT

This study examines the degree of correlation between the age of a child on entering kindergarten and the child's academic achievement. A review of literature provides evidence that premature learning may actually create a block to later learning. One study reported that many chronologically young children who had a higher than average I.Q. failed academically, and that nearly a third of the entrants were poorly adjusted. Other studies found that underage children had greater problems in all areas except scholastic achievement, and especially in social and emotional adjustment. In fact, overage children made better progress than did underage children. The conclusion of some educators is that delayed schooling is more effective and potentially less damaging than early school entrance. In this study, the Developmental Test of Visual-Motor Integration was administered to two samples that were randomly selected from 81 kindergartners. Ages ranged from 5 years, 6 months, to 6 years; and from 4 years, 11 months, to 5 years, 5 months. Findings indicated that the older group obtained significantly higher scores. There was a positive correlation between entrance age and academic achievement in kindergarten. (SH)

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ENTRANCE AGE AND VISUAL MOTOR INTEGRATION

Elizabeth Foote

The purpose of this study is to look at one factor that appears to impact the student's success in kindergarten and throughout his academic career? The age at which a child should begin his formal schooling has been debated and changed frequently through the years. Since most school districts throughout the country admit children to school on the basis of one criterion, chronological age, the question of age needs to be investigated.

President Bush and the nation's governors have proclaimed as the first of our national goals for education that, "by the year 2000, all children in America will start school ready to learn." Underscoring the importance of the goal, respondents to the 22nd Annual Gallup Poll (1990) cited it as an educational priority and accorded it the highest likelihood of attainment." The traditional criterion of age, divorced from concerns for the developmental needs of the child determines that the child will begin kindergarten at age five. Will older five year olds achievement be greater than younger five year olds?

Review of Literature

The popular view of when a child should start school was clearly and forcefully stated by Cramond (1990) who described how she and her husband determined that their four and one half year old was

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ready to begin school. Their basic criteria were that their daughter was bright and also developmentally advanced for her age. They felt it a waste of their daughter's time if she were not allowed to begin her formal education. Cramond then outlined various barriers encountered and explained how they were circumvented. She concluded her article by describing how well her daughter was doing but tells how unhappy she was her first school year, attributing this to being in the wrong school, one with both a bad attitude and a poor program.

Academic achievenemt seems to be the hallmark for which many parents and educators alike strive. Elkind (1987) noted a national trend towards pushing young children to achieve academically leading to inappropriate teaching methods and expectations for kindergarten children with the result that such youngsters face possible stress and educational burnout in elementary school. There is real danger that large numbers of children will experience learning problems.

Ogletree (1991) says many educators have cited evidence that premature learning may actually create a block to later learning. Researchers see the key in the simultaneous relationship between physical maturation and intellectual development.

Ames and Chase (1980) say paying attention to birthday age does help if you have no way of getting an evaluation of a child's maturity level. The chances are very good for success in school if he or she is on the older side, fully five for

girls, five and-a-half for boys, before entering kindergarten. A practical indicator for success is whether he or she is as mature as other five year olds when entering school.

Ames and Chase cited a checklist developed by Austin and Lafferty (1963): "The School Readiness Checklist" which asks "Will your child be five years and six months or older when he or she begins kindergarten?".

Early kindergarten entrance had pretty much been given up by most communities in the late 1970's and early 1980's partially because educators and parents alike came to realize that being extra bright doesn't make up for immaturity in producing school success.

Mawhinney (1964) reported that his Grossse Pointe, MI community gave up early entrance because many chronologically young children who have higher than average I.Q. failed academically.

While director of pupil personnel, Mawhinney and other Grosse Pointe school district psychologists experimented with four and five year olds. For fourteen summers they used a special testing program to select early entrants for kindergarten. Parents fought to enter their children in the program. They were deeply disappointed and critical if rejected. At the end of fourteen years, Mawhinney and his staff discontinued the program. They found that: (1) Nearly one third of the entrants turned out to be poorly adjusted; (2) Only about one of twenty was judged an outstanding leader; and (3) Nearly three out of four were considered entirely lacking in leadership. After only five or six years the director

knew the program was a failure but parental pressure was so great that they kept this program going for nine more years.

The staff ultimately concluded not only that the program failed to justify early school entrance but also that it failed the children in personal self-image terms. Children couldn't do what was expected of them and even worse disappointed their parents in a significant way.

Halliwell (1966), a prominent researcher on the subject of school entrance age, concluded that "early school entrance results in lower achievement throughout the grades when comparisons of achievement with control groups of later entrants of similar abilities are made..."

Gott (1963) compared 171 California kindergarten children who were about four years, nine months old at enrollment with the same number who entered nearly one year later. She ranked them on a ten point scale, measuring socio-emotional development. There were four times as many younger children in the lowest rank, and nearly twice as many of the younger group in the three lowest groups combined. Conversely, more than twice as many of the older group placed in the three highest groups.

The idea that sending children to school early socializes them, appears to be untrue. The opposite appears to be true in every comparison of early and late starters.

Forester (1955), a school administrator for 20 years, studied 500 school children from kindergarten through high school. He

found that those pupils who were very bright, but very young at the time of school entrance did not realize their potential. They tended to be physically immature or emotionally unstable, or they would cry easily. Socially, they seldom showed leadership. On the other hand, the very bright late-school-entrance students excelled throughout their school careers. He concluded that in many cases early school entrance may result in maladjustment in school and may even have an adverse effect on adult life.

In society many people express dissatisfaction with the views expressed above. Bruner (1966) summarized this view when he said "any subject can be taught effectively, in some intellectually honest form, to any child at any stage of development." Ogletree (1991) terms this view an unsubstantiated psychometric one and adds "The result is to produce children who score high in achievement tests."

Ogletree (1991), feels that this popular attitude reflects our "hurry up society, which uses the age criterian, divorced from concerns for developmental needs. Little if any consideration is given to the maturational-readiness of the entering child." (p.27)

Elkind (1987) felt the miseducation of young children ignores the well-founded differences between early childhood education and formal education. Studies show that induced cognitive learning before a child is maturationally ready will reduce his learning potential (p.71).

Ogletree (1991) said that Chicago Suburban primary teachers report that children who attended an instructional type preschool

and kindergarten were bored, burned-out and turned off by second or third grade. The grade retention rate for immature learners is higher that that of older learners.

Bell (1985), surveyed the literature and cited a number of studies. She found that: 1) underage chidren have greater problems in all areas except scholastic achievement. The child has the greatest disadvantage in social and emotional adjustment and the disadvantage persists through all the grades; 2) A larger number of younger entrants will have to repeat a grade; 3) More boys than girls will repeat a grade; 4) Average daily attendance will be lower; 5) Overage children made better progress than did underage children.

Shank (1990) calls for a change in the way children are admitted to school, citing Elkind (1987), who "accused schools of using a factory approach which emphasizes worker (teacher) productivity and quality control and (pupil) competency). In such a system the needs of the child can be tossed away like a chipped bottle on an assembly line". "Admission to kindergarten," he believed, "should be based on readiness assessment rather than chronological age".

Moore and Moore (1979), state that research show that delayed schooling with acceleration at a later age is more effective and potentially less damaging mentally, socially, and emotionally than early school entrance. They reported on studies that demonstrate that the older a child is, the better he will function and structure his environment and the more he will have in experience

and understanding of the world.

Educators who believe and are committed to a developmental approach in educating young children also believe that older children are usually more mature. They generally agree with Moore and Moore's conclusion that delayed schooling is potentially more effective and less harmful to the young child.

Procedures

Population:
The population for this study includes 81 kindergarten students. The students attend Amos Alonzo Stagg Public School. It is located in a predominately low and low-middle socio-economic neighborhood on the south side of Chicago. The population is comprised of 100% minority students.

Sample:
From the 81 students. school records showed that 39 were born between 9/16/1984 and 2/28/1985 and 44 were born between 3/1/1985 and 9/26/1985 Twenty were randomly selected from each of these sub-populations.

Method of Data Collection:
Two samples were randomly selected from the two identified populations of 81 kindergraten children, ages five years six months to six years and four years eleven months to five years five months. They were classified as the experimental and control groups, respectively. Both groups were administered the Developmental Test of Visual-Motor Integration in the Spring of 1991. The posttest only group design was used.

Instrument:
The Developmental Test of Visual-Motor Integration (VMI) is a series of 24 geometric forms to be copied with pencil and paper. The forms are arranged in order of increasing difficulty. The test can be administered to children in the age range of two to fifteen years, but it was designed primarily for the preschool and the early primary grades. The format is suitable for both group and individual administration.

Treatment of Data:
The findings will be tablulated to determine the degree of correlation between the age of the child on entering kindergarten and academic achievement. It will be determined according to the table of rs at 5% confidence level.

Results:
Visual-Motor Scores were obtained for all students. The findings indicate that group X (N=20) obtained significantly higher scores than group Y (N=20) who were six months or more younger than group X.

.r=.85 > .30 at .05 level in the Pearson Product Correlation Coefficient. Therefore there is a positive correlation between the entrance age and academic achievement.

Findings of the Study

	1.	x	x2	2.	y	y2	xy
1.	66	5	25	70	6	36	30
2.	74	13	169	50	14	196	182
3.	86	15	225	70	6	36	90
4.	72	1	1	66	2	4	2
5.	72	1	1	66	2	4	2
6.	63	8	64	60	4	16	32
7.	63	8	64	60	4	16	32
8.	74	3	9	67	7	49	21
9.	77	6	36	70	6	36	36
10.	79	8	64	63	1	1	8
11.	66	5	25	66	2	4	10
12.	79	8	64	66	2	4	16
13.	57	14	196	74	10	100	80
14.	63	8	64	63	1	1	14
15.	79	8	64	63	1	1	8
16.	74	3	9	67	3	9	81
17.	60	11	121	46	18	324	198
18.	77	6	36	67	3	9	18
19.	72	1	1	59	5	25	5
20.	67	4	16	63	1	1	4
Totals	1,420		1,254	1,280		904	903

N=20

$$xy = \frac{903}{\sqrt{12504 \times 903}}$$

$$\frac{903}{\sqrt{1,133,616}}$$

$$\frac{903}{1,065} = .85 = r \quad df = 38$$

r = .85 > .30 at .05 level.
There is a significant correlation at the 5% level.

Conclusion:

The results of this study confirm the findings of experts particularly Ames and Chase who cited the Austin and Lafferty checklist lising criteria for evaluation readiness for Kindergarten namely: "being bright does not make up for immaturity". Ogletree who says that "premature learning may create a block to later learning" and Mawhinney who found after fourteen summers that not only had his program failed to justify early entrance age but that it also failed the children in terms of their personal self-image. Children couldn't do what was expected and worse disappointed their parents in a significant way.

Educators who support a developmental approach to education seem to agree with the findings of this study which finds that there is a positive correlation between entrance age and academic achievement in Kindergarten.

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